The Dalles Cooling Water Strainer

At present The Dalles project has installed seven “Hellan” Fluid strainers or what is called on project as main unit cooling water strainers that are used to remove debris from main unit cooling water to avoid damage to the turbines. Juvenile lamprey have been seen in the strainers as well as several other species of fish. Juvenile shad at present appear to be the main biotic component found when the cooling water strainers are inspected but it has been mentioned by mechanics that smolt as well as juvenile lamprey and have been seen in the strainer, although in very small numbers. All strainers, new and old, are annually serviced or “PM’d” when the main unit is up for annual service. Old strainers would also be read daily at an attached pressure gauge which when pressure was too high would be serviced and cleaned directly. The majority of clogging due to biotic components were primarily found in main units one through five. With the installation of new cooling water strainers, they are inspected and service only when the main unit is up for its annual inspection. The Hellan cooling water strainers are set in an automatic mode, which runs a cleaning cycle monthly or if debris (and pressure accordingly) builds up , then the unit will automatically run a cleaning cycle.

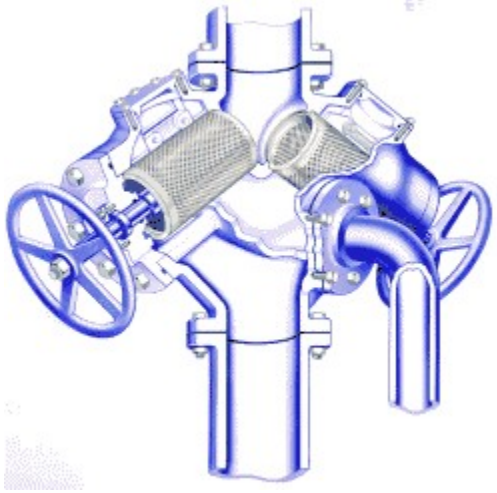
“Old” cooling water strainers

Still in use at Main Units: 3, 4, 9-13, and 15-22

“New” Hellan cooling water strainers

Operational in Main Units: 1, 2, 5-8, and 14

Hellan Fluid Strainer (New)



Functional Description

The strainer is an automatically cleaned, dual element type unit and shall consist of two cylindrical screens mounted inside a housing, arranged such that flow must pass through the screen from the outside surface. The cylinders are arranged to be rotated by a motorized worm gear speed reducer external to the housing, causing the screen surface to rotate clock-wise and pass by a scraper bar assembly. Accumulated solids shall be scraped from the screen surface into a sump from which they may be discharged through the drain valve by means of an automatic waste discharge valve that operates in conjunction with both strainer assemblies at the same time or